

No. 24-7497
Consolidated with Nos. 21-70168, 21-70670

IN THE UNITED STATES COURT OF APPEALS
FOR THE NINTH CIRCUIT

YUROK TRIBE, ALASKA COMMUNITY ACTION ON TOXICS, CENTER
FOR ENVIRONMENTAL TRANSFORMATION, and
CONSUMER FEDERATION OF AMERICA,

Petitioners,

v.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
and LEE ZELDIN, in his official capacity as
Administrator of the United States Environmental Protection Agency,

Respondents.

On Petitions for Review of Final Agency Actions of the
United States Environmental Protection Agency
86 Fed. Reg. 880 (Jan. 6, 2021) and 89 Fed. Reg. 91,486 (Nov. 19, 2024)

PETITIONERS' REPLY BRIEF

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INTRODUCTION

In section 6(h) of the Toxic Substances Control Act (“TSCA”), Congress singled out certain “persistent, bioaccumulative, and toxic” (“PBT”) chemicals for stringent, expedited regulation. Recognizing PBTs’ unique dangers, Congress directed EPA to reduce all exposures to these chemicals “to the extent practicable.” 15 U.S.C. § 2605(h)(4).

EPA’s regulation for one such chemical—decaBDE—defies that mandate. DecaBDE is highly toxic—harming the immune and reproductive systems and the brain, liver, and thyroid—and exposure is widespread. But instead of heeding Congress’s directive to implement all exposure-reduction measures that are capable of being done, EPA largely codified the status quo, prohibiting already-abandoned uses of decaBDE and adopting long phase-out periods for ongoing uses.

Crucially, EPA refused to regulate activities from which decaBDE exposure is expected to *increase*, including recycling and disposal. EPA misinterpreted what is “practicable” and rejected exposure-reduction measures based on unsupported assertions that they would be difficult or expensive. EPA also disregarded exposures from wastewater discharges and land-applied sewage sludge without adequate explanation.

EPA’s brief cannot redeem these failures. EPA advances an interpretation of “practicable” that would vitiate Congress’s mandate for singularly aggressive

regulation of PBTs; ignores Petitioners’ arguments and evidence that targeted restrictions short of “broad prohibition[s],” EPA Br. 2, Dkt. 34.1, are practicable; offers impermissible *post hoc* rationalizations; and fails to identify substantial evidence supporting the Amended Rule’s exclusions and omissions.

STANDARD OF REVIEW

EPA mischaracterizes the standard of review. EPA Br. 19-20. First, EPA ignores that “TSCA’s substantial evidence review ... is more searching and demanding than the [Administrative Procedure Act’s (“APA’s”)] substantial evidence review.” *Vinyl Inst., Inc. v. EPA*, 106 F.4th 1118, 1125 (D.C. Cir. 2024) (quotations omitted); *accord Lab. Council for Latin Am. Advancement v. EPA*, 12 F.4th 234, 245 (2d Cir. 2021).

Second, EPA misreads TSCA in arguing that the APA’s arbitrary-and-capricious standard is inapplicable. EPA Br. 19 n.2. APA standards apply to review of TSCA rules except for “the standard for review prescribed by paragraph (2)(E) of [5 U.S.C. § 706]”—the substantial evidence standard. 15 U.S.C. § 2618(c)(1)(B)(i)(I). TSCA’s heightened “substantial evidence” standard thus displaces only the APA’s substantial evidence standard, *Inhance Techs., LLC v. EPA*, 96 F.4th 888, 892 n.5 (5th Cir. 2024), and EPA must still comply with the APA’s prohibition on “arbitrary” or “capricious” decision-making. 5 U.S.C. § 706(2)(A); *see also Ass’n of Data Processing Serv. Orgs., Inc. v. Bd. of*

Governors of the Fed. Rsrv. Sys., 745 F.2d 677, 683 (D.C. Cir. 1984) (explaining APA standards are “cumulative,” meaning action “supported by the required substantial evidence may in another regard be arbitrary, [or] capricious” (quotation omitted)).

STATUTORY ADDENDUM

All applicable statutes and regulations appear in the addenda to Petitioners’ and EPA’s briefs.

ARGUMENT

I. EPA MISINTERPRETS TSCA’S MANDATE TO IMPOSE ALL “PRACTICABLE” EXPOSURE-REDUCTION MEASURES

In TSCA section 6(h), Congress directed EPA to adopt *all* “practicable” measures to reduce decaBDE exposure. 15 U.S.C. § 2605(h)(4). While this grants EPA “some discretion to choose among possible ... measures, [EPA] cannot exercise that discretion to vitiate this stringent standard.” *Nat. Res. Def. Council, Inc. v. Pritzker*, 828 F.3d 1125, 1133 (9th Cir. 2016) (quotation omitted).

EPA’s interpretation that what is “practicable” depends on an open-ended set of discretionary factors—allowing EPA to reject measures it deems “difficult,” 1-ER-0008, “expensive,” *id.*, or “difficult to make ... cost-effective,” 1-ER-0011—is not the “best reading” of the statute. *Loper Bright Enters. v. Raimondo*, 603 U.S. 369, 400 (2024). EPA’s reliance on that erroneous interpretation to reject measures to reduce decaBDE exposures violates TSCA.

EPA is incorrect that, because some dictionary definitions of “practicable” contain modifiers like “reasonably,” EPA Br. 22-23, EPA has unfettered discretion to reject exposure-reduction measures based on its judgment of what measures are “reasonable” given their costs, *id.* at 24-25. EPA also improperly relies on section 6(c)(2), *id.* at 23-24, which is inapplicable to section 6(h) rules.

A. EPA Mischaracterizes Petitioners’ Position

Petitioners do not assert that TSCA section 6(h) permits “no consideration beyond the technical ability to accomplish the [exposure] reduction.” *Id.* at 32; *see also id.* at 17-18. Rather, Petitioners explained that section 6(h) “*does not* preclude any consideration of costs”; EPA may consider economic feasibility but may not reject economically feasible measures based on judgments that their costs are not worth it. Pet’rs’ Br. 34, Dkt. 25.1 (emphasis added). Petitioners’ interpretation accords with the D.C. Circuit’s decision in *Union Neighbors United, Inc. v. Jewell*, cited in EPA Br. 28-29, 32, which affirmed that a mitigation measure was impracticable where it “would likely result in the Project not being built” due to lost revenues. 831 F.3d 564, 584 (D.C. Cir. 2016) (quotation omitted).

B. EPA Cannot Reject Exposure-Reduction Measures Because Their Costs Purportedly Are Not “Reasonable”

In the rulemaking process, EPA interpreted “practicable” to encompass an open-ended set of discretionary factors “such ... as achievability, feasibility, workability, and reasonableness”; considerations in section 6(c); and factors like

“voluntary standards.” 1-ER-0005; 1-ER-0022–23. EPA’s brief focuses on the “reasonableness” of costs, EPA Br. 22-27, and suggests that TSCA grants EPA unbounded discretion to reject exposure-reduction measures on this basis.

Neither the statute nor case law supports EPA’s position.

1. EPA’s preferred dictionary definition of “practicable”—“reasonably capable of being accomplished,” EPA Br. 23, 30 (quotation omitted)—is not the best reading because allowing EPA to reject exposure-reduction measures based on unconstrained reasonableness judgments conflicts with section 6(h)’s text and purpose.

As EPA acknowledges, managing PBT chemicals’ unique risks was “of such concern to Congress that a special expedited rulemaking provision was established” in section 6(h), 2-ER-0104, requiring EPA to regulate PBTs more quickly and aggressively than other chemicals, 15 U.S.C. § 2605(h). Defining “practicable” as “able to be done,” Pet’rs’ Br. 31-32 (quotation omitted), effectuates the goal of section 6(h) to maximize reductions in PBT exposure. *See Brown v. Gardner*, 513 U.S. 115, 117-18 (1994) (resolving inconsistent dictionary

definitions based on statutory context); *United States v. Chi Tong Kuok*, 671 F.3d 931, 943 (9th Cir. 2012) (similar).¹

Moreover, Congress established a rulemaking standard based on reasonableness for chemicals not subject to section 6(h), *see* 15 U.S.C. § 2605(a) (directing EPA to regulate to eliminate “unreasonable risk”), which “demonstrates that Congress intended to convey a different meaning” when it used the distinct word “practicable” in section 6(h). *SEC v. McCarthy*, 322 F.3d 650, 656 (9th Cir. 2003).

2. EPA’s cited cases do not support its broad reading. EPA suggests the *State Farm* Court’s interpretation of “practicable” necessarily incorporates the reasonableness of a regulation’s costs. EPA Br. 25-26. But the statute at issue expressly required the agency to consider whether a standard is “reasonable” and “appropriate” *in addition to* “practicable.” *Motor Vehicle Mfrs. Assn. of the U.S. v. State Farm Mut. Auto. Ins.*, 463 U.S. 29, 33 (1983) (quotation omitted). In *Michigan v. EPA*, cited at EPA Br. 26, the Court did not interpret the term “practicable”; instead, it held that the distinct phrase “appropriate and necessary” encompasses cost considerations. 576 U.S. 743, 747 (2015) (quotation omitted).

¹ EPA’s view that “practicable” means “reasonable” regarding costs would make the section 6(h) standard *less* stringent than the standard for other chemicals, for which EPA must identify what risks are “unreasonable” “without consideration of costs,” 15 U.S.C. § 2605(b)(4)(A), and eliminate such risks, *id.* § 2605(a).

Finally, the observation in a concurrence in *Kisor v. Wilkie* that “practicable” in a regulation affords the agency discretion to “choose among the options allowed by the text of the rule” does not support EPA’s interpretation of “practicable” in a manner inconsistent with the text of the statute. 588 U.S. 558, 632 (2019) (Kavanaugh, J. concurring); EPA Br. 26-27.

3. Petitioners’ interpretation of “to the extent practicable” does not require rewriting section 6(h). *Contra* EPA Br. 27-30. This Court has defined “practicable” as “capable of being done” and synonymous with “feasible.” *Haeuser v. Dep’t of Law, Gov’t of Guam*, 97 F.3d 1152, 1155 (9th Cir. 1996) (citation modified); *see also Pritzker*, 828 F.3d at 1134. Moreover, this interpretation does not confine EPA’s analysis to “technical feasibility alone,” EPA Br. 28, but considers economic feasibility as well. *See* Pet’rs’ Br. 32-34.

4. That Congress intended EPA to reduce decaBDE exposures to the “maximum extent practicable” is not an “unsupported” “hypothesi[s].” EPA Br. 30-31 (quotation omitted). Legislative history makes clear that Congress enacted section 6(h)’s “extent practicable” language “with the expectation that no change in meaning ... be inferred” from prior bill text that used “maximum extent practicable.” 162 Cong. Rec. 7984 (2016). This reinforces Congress’s intent to require all exposure-reduction requirements that are capable of being done. Pet’rs’ Br. 32-34.

C. TSCA Section 6(c)(2) Does Not Apply

EPA errs in asserting that TSCA section 6(c)(2) “support[s] ... EPA’s decision to look to ‘reasonableness’” in determining what measures are “practicable,” EPA Br. 23-24, because section 6(c)(2) does not apply to section 6(h) rules. Pet’rs’ Br. 35-36.

TSCA section 6 establishes two approaches for regulating chemicals in commerce. For most chemicals, EPA must conduct a risk evaluation to determine if the chemical presents “unreasonable risk.” 15 U.S.C. § 2605(b)(4)(A). If so, EPA must “by rule and subject to section [18], *and in accordance with subsection (c)(2)*, apply one or more” requirements in section 6(a)(1)-(7) “to the extent necessary so that the chemical ... no longer presents such risk.” *Id.* § 2605(a) (emphasis added).

But for PBT chemicals subject to section 6(h), Congress dispensed with the risk evaluation requirement, *id.* § 2605(h)(2), directing EPA to proceed directly to regulation. EPA must expeditiously promulgate rules for those PBTs “under subsection (a)” that “reduce exposure ... to the extent practicable.” *Id.*

§ 2605(h)(3)-(4). Reading subsection (a) holistically shows that the requirement to regulate “under subsection (a)” requires EPA to choose restrictions from section 6(a)(1)-(7) but does not incorporate subsection (c)(2).

First, none of the other terms of section 6(a)'s initial paragraph, which precedes the list of regulatory options, applies to section 6(h) rules, making it illogical that the lone term "in accordance with subsection (c)(2)" would apply:

- "[R]isk evaluation[s] [are] neither required nor contemplated" for section 6(h) chemicals, 1-ER-0005; *see* 15 U.S.C. § 2605(h)(2), rendering inapplicable section 6(a)'s directive for EPA to regulate if it "determines in accordance with [a risk evaluation]" that a chemical "presents an unreasonable risk," 15 U.S.C. § 2605(a).
- If EPA finds unreasonable risk, EPA "shall ... subject to section [18]" (concerning preemption) regulate "to the extent necessary so that the chemical ... no longer presents [unreasonable] risk." *Id.* The mandate to eliminate unreasonable risks does not apply to section 6(h) chemicals. *Id.* § 2605(h)(2), (4). Moreover, "[t]he decaBDE rule ... has no preemptive effect on state actions under TSCA section 18," EPA Br. 49 n.5, so the "subject to section [18]" language does not apply, 15 U.S.C. § 2605(a).

Second, as EPA recognized, there is a "clear conflict" between parts of sections 6(c)(2) and 6(h), 1-ER-0006, underscoring section 6(c)(2)'s inapplicability. For example, sections 6(c)(2)(D) and (E) mandate consideration of findings from a risk evaluation, which, section 6(h) does not require. *Id.*; *see* 15

U.S.C. § 2605(c)(2)(D), (E), (h)(2). Further, because EPA did not conduct risk evaluations for section 6(h) chemicals, it lacks the analysis needed to address other section 6(c)(2) factors, such as a regulation’s “cost effectiveness.” 15 U.S.C. § 2605(c)(2)(A)(iv)(III); *see* 1-ER-0013 (EPA explaining that it is “unable to perform a traditional cost-effectiveness analysis ... for the PBT chemicals” “[w]ithout the supporting analyses for a risk determination”).

EPA’s reading requires ignoring these conflicts and cherry-picking one clause—“in accordance with subsection (c)(2)” —from a provision where every other term is inapplicable to section 6(h) rules. *See Borden v. eFinancial, LLC*, 53 F.4th 1230, 1235 (9th Cir. 2022) (“[W]e do not interpret a statute by cherry-picking one word out of it”). The better reading of section 6(h)’s cross-reference to section 6(a) is that EPA must select among the regulatory options in that section. *See Hernandez v. Williams, Zinman & Parham PC*, 829 F.3d 1068, 1073 (9th Cir. 2016) (affirming that statutes are interpreted to produce “coherent regulatory scheme[s]” (quotation omitted)).

II. EPA UNLAWFULLY REJECTED MEASURES TO REDUCE DECADE EXPOSURES FROM RECYCLING, SOLID WASTE DISPOSAL, WASTEWATER, AND LAND-APPLIED SEWAGE SLUDGE

Even if EPA’s reading of “practicable” were correct, which it is not, EPA failed to justify the Amended Rule’s exclusions and omissions under that interpretation.

Contrary to EPA’s characterization, there is not “comprehensive regulation” of decaBDE exposure from solid waste disposal, wastewater discharges, or land-applied sewage sludge under existing laws, EPA Br. 47, nor from recycling. EPA identifies *no* existing federal- or state-law restrictions on decaBDE releases and exposures from recycling, wastewater, or land-applied sludge, and existing regulation of solid waste disposal under the Resource Conservation and Recovery Act (“RCRA”) does not reduce decaBDE exposures to the extent practicable as TSCA requires. Accordingly, EPA found that decaBDE releases from recycling and disposal “are likely to increase” given the volume of decaBDE-containing materials in commerce. 3-ER-0402.

Further, what EPA lauds as “broad prohibition[s]” in the Amended Rule on manufacturing, processing, and distributing decaBDE, EPA Br. 47, largely codify the status quo and are riddled with exemptions and protracted phaseouts. Pet’rs’ Br. 23; *see* 40 C.F.R. § 751.405(a)(1)(ii), (a)(2)(iii)-(vi), (b), (e)(6). And they do not address exposures to the immense quantity of decaBDE in use that will be disposed of or recycled eventually. *See* 4-ER-0536 (estimating approximately 70,000 metric tons—over 154 million pounds—of PBDEs in use in 2020, “of which 95% is decaBDE”). EPA’s failure to address major sources of ongoing decaBDE exposure violates TSCA’s mandate for stringent regulation of this particularly dangerous chemical and necessitates remand.

A. Recycling

EPA’s decision to exempt from regulation virtually all recycling of plastics containing decaBDE, and all use of decaBDE-contaminated recycled plastic in new articles, is arbitrary and unsupported.² Pet’rs’ Br. 36-44. EPA’s argument that banning *all* recycling of decaBDE-containing plastics would be “difficult to make ... cost-effective” and “prohibitively expensive,” 1-ER-0011; 1-ER-0026; *see also* EPA Br. 34-35, is a strawman, ignoring evidence that major exposure reductions are achievable through targeted restrictions on specific waste streams and facilities. EPA also ignores evidence that affordable plastic-sorting technologies are available to implement recycling restrictions. EPA’s rejection of exposure-reduction measures because decaBDE levels in recyclable plastics purportedly are “low,” and because EPA wants to promote recycling, also lacks support.

1. EPA arbitrarily ignored the practicability of targeted recycling restrictions

EPA’s defense of the recycling exclusion fails, first, because EPA never addressed the practicability of targeted restrictions on the waste streams and recycling facilities generating most decaBDE exposure. EPA argues only that

² The only exception is the Amended Rule’s requirement that one company recycling shipping pallets adopt limited occupational-exposure controls. Pet’rs’ Br. 22. These requirements do not apply to all workers “who process decaBDE-containing plastics,” Br. of iGPS Logistics 19, Dkt. 38.1; the Amended Rule exempts all recycling facilities *except* those recycling shipping pallets, 40 C.F.R. § 751.405(e)(6)(ii).

completely “banning the recycling of plastics containing decaBDE” is impracticable. 1-ER-0011; 1-ER-0026; *see also* 6-ER-1355; EPA Br. 34. Because EPA “failed to consider an important aspect” of the problem, the exclusion is arbitrary. *Waterkeeper All. v. EPA*, 140 F.4th 1193, 1223 (9th Cir. 2025).

Petitioners advocated in the rulemaking process for targeted restrictions on (1) recycling plastics from electronics, construction and demolition waste, and end-of-life vehicles that exceed specified decaBDE concentrations; and/or (2) environmental releases of decaBDE from facilities recycling electronics or vehicles. Pet’rs’ Br. 39; *see also* 7-ER-1416, 7-ER-1420; 7-ER-1489, 7-ER-1492–94. EPA failed to consider these proposals. *See, e.g.* 6-ER-1355 (EPA asserting that “the only options” for reducing recycling-related exposures are “prohibit[ing] plastics recycling generally” or testing all recyclable plastics for decaBDE); EPA Br. 34-46.

EPA does not dispute that restricting decaBDE in recyclable plastics from these high-priority waste streams would capture most decaBDE entering recycling processes. *See* Pet’rs’ Br. 39; 7-ER-1494; 4-ER-0538 (explaining that, among waste streams, electronics and end-of-life-vehicles contain most decaBDE and approximately 90% of decaBDE use has been in polymers incorporated primarily in electronics, vehicles, and building and construction materials). This would not require “banning recycling of plastics containing decaBDE,” EPA Br. 34, or burden

recyclers of other materials. Further, EPA could tighten decaBDE limits for the targeted waste streams over time. *See* 7-ER-1493 (discussing European Union’s progressively stricter limits on PBDEs in recyclable plastics). Restricting decaBDE releases from facilities recycling electronic waste or vehicles would also address “an important source of environmental releases” that “contribute[] to significant environmental pollution and health risks for local populations” near recycling facilities, while limiting regulation to a discrete set of facilities. 4-ER-0682; 6-ER-1300.

But EPA never addressed the practicability of these approaches. EPA’s 2024 response to public comments acknowledges Petitioners’ proposals but merely rehashes its conclusion from the 2021 Rule that it is impracticable “to prohibit plastics recycling generally” or test all recyclable plastics from all waste streams to determine whether they contain decaBDE. 6-ER-1355. EPA’s rejection of targeted recycling restrictions “without any explanation as to how [EPA] exercised its discretion” renders the Amended Rule arbitrary. *Waterkeeper*, 140 F.4th at 1223.

2. The recycling exclusion is arbitrary and unsupported

Moreover, the recycling exclusion is not rationally supported. EPA’s rejection of *any* measures to reduce recycling-related exposures because of testing costs, supposedly “low” decaBDE levels in articles, and EPA’s desire to promote

recycling do not justify the exclusion, particularly under TSCA’s “*stricter*” substantial evidence standard. *Vinyl Inst.*, 106 F.4th at 1125.

a. EPA’s testing-costs argument does not justify the recycling exclusion

EPA’s “principal reason for finding a recycling prohibition impracticable” is that it purportedly costs too much to conduct laboratory testing of plastics for decaBDE. EPA Br. 35; *see id.* at 35-37, 39; 1-ER-011. This rationale is arbitrary and inadequate to support the recycling exclusion because: (1) it ignores methods for segregating decaBDE-containing plastics that do not require lab testing each item; and (2) even assuming laboratory testing were required, EPA did not rationally assess those costs.

As Petitioners explained to EPA during its reconsideration of the 2021 Rule, multiple inexpensive, widely used methods can screen decaBDE-containing plastics out from the recycling stream. *See, e.g.*, 7-ER-1419–20; 7-ER-1462–63, 7-ER-1493–94. For example, a “routine field method for flame retardant analysis” called XRF costs roughly one-tenth the average lab-testing cost EPA cites. 9-ER-2078³; EPA Br. 36. Yet EPA failed to consider the practicability of any of these methods. *See* FER-0054 (2024 Economic Analysis stating EPA “did not reevaluate

³ This 2018 study estimates XRF costs of 10 Euros per sample, equaling approximately \$11.80 in 2018 U.S. Dollars. *Euro (EUR) To US Dollar (USD) Exchange Rate History for 2018*, Exchange-Rates.org, <https://www.exchange-rates.org/exchange-rate-history/eur-usd-2018> (last visited Nov. 3, 2025).

the practicability of further exposure reductions ... or ... regulatory restrictions on[] the general recycling of decaBDE-containing plastic”); EPA Br. 35-38 (citing only 2020 Economic Analysis to support testing-costs argument). By “ignoring available data” supporting the practicability of screening decaBDE-containing plastics without laboratory testing, EPA “acted in an arbitrary and capricious manner.” *Ctr. for Biological Diversity v. Zinke*, 900 F.3d 1053, 1068 (9th Cir. 2018).

EPA’s contention that it permissibly ignored these sorting methods because they do not differentiate among PBDE congeners, and “TSCA did not authorize EPA to ... regulate the entire class of brominated flame retardants or [PBDEs],” is unavailing. EPA Br. 40; *see also id.* at 39-41. That low-cost sorting technologies may incidentally screen out plastics containing other flame retardants would not mean EPA is regulating those chemicals. EPA’s regulations for specific chemicals often require use of technologies that incidentally capture additional contaminants. *See, e.g.*, PFAS National Primary Drinking Water Regulation, 89 Fed. Reg. 32,532, 32,533-34, 32,624-25 (Apr. 26, 2024) (discussing co-benefits of incidental removal of additional drinking-water contaminants by technologies required to meet standards for six PFAS chemicals). Moreover, the vast majority of PBDE manufacturing and use has been decaBDE, undercutting EPA’s concern about incidentally detecting other PBDEs. *See* 4-ER-0536 (estimating that 95% of

PBDEs in articles in use is decaBDE); *see also* 2-ER-0192 (noting that 92% of e-waste contains decaBDE).⁴

Even if lab testing individual plastic items were necessary, which lacks record support, EPA’s determination that lab testing plastics for decaBDE is “prohibitively expensive” is not supported by substantial evidence. 1-ER-0011; 1-ER-0026. EPA identifies no analysis of the costs of lab testing plastics for decaBDE. EPA Br. 35-37. EPA points to a “qualitative[]” description of testing costs in its 2020 Economic Analysis asserting testing costs associated with categorically banning recycling of decaBDE-containing plastics would “likely ... be very high.” 2-ER-0222–23; *see* EPA Br. 35-36. This vague contention, which says nothing about the practicability of targeted restrictions, rests on a single laboratory’s prices for testing articles for “various chemical substances”—not decaBDE specifically. 2-ER-0222; FER-0185–86. Even assuming those prices reflect decaBDE testing costs, which EPA did not establish, EPA made no attempt

⁴ EPA’s brief misleadingly suggests it analyzed the practicability of screening plastics containing decaBDE out of recycling streams using XRF and other methods Petitioners identified, EPA Br. 40, but there is no such analysis in the record. EPA’s brief cites only its 2020 response to an industry comment concerning unspecified methods for testing finished articles to comply with a potential concentration limit on decaBDE. *Id.*; 2-ER-0141. Subsequently, Petitioners introduced detailed evidence of the practicability of using methods including XRF for the distinct purpose of sorting recyclable plastics. 7-ER-1419–20; 7-ER-1462–63; 7-ER-1493–94. EPA identifies no analysis of that evidence.

to evaluate the resulting economic burden on the recycling industry or priority sectors such as recyclers of electronic waste or vehicles. 2-ER-0222-23.

The only other testing-cost information EPA cites is a “heuristic” from another agency’s analysis that has nothing to do with decaBDE or recycling; it concerns the costs of testing children’s products for lead and phthalates. EPA Br. 36-37; *see* 2-ER-0223 (EPA acknowledging this information “do[es] not necessarily reflect the costs of testing for the presence of decaBDE in recycled plastics”). Further, EPA never used this information to assess the economic impact of testing on the recycling industry or facilities recycling high-decaBDE wastes.

The information EPA cites does not provide substantial evidence supporting the recycling exclusion. “[T]hat EPA need not rely on perfect data cannot justify EPA’s use of data that does not meaningfully address” important aspects of the problem—here, the relevant chemical, the relevant materials in which the chemical may be present, the relevant methods for detecting the chemical, or the economic impact of deploying those methods in the relevant facilities. *Waterkeeper*, 140 F.4th at 1221.

- b. EPA’s rejection of recycling restrictions based on allegedly “low” decaBDE levels in articles is contrary to TSCA and unsupported

EPA’s assertion that recyclable plastics contain “low levels” of decaBDE, EPA Br. 37, 42-45, likewise fails to support the recycling exclusion.

First, EPA lacks discretion under TSCA section 6(h) to leave exposures unregulated because they are “low.” Pet’rs’ Br. 42-44. DecaBDE, like other PBTs, has “toxic attributes” even in “small quantities,” 2-ER-0168, and builds up in living things over time, 1-ER-0007; *see also* Br. of Public Health Experts 8, 11, 14-17, 27-28, Dkt. 30.1 (explaining risks to children from even “low”-level exposures, including harm to brain development). Accordingly, as EPA explained, section 6(h) rules must “prohibit all activities that it is practicable to prohibit” to reduce exposures, 2-ER-0132; *see* 15 U.S.C. § 2605(h)(4), not only those presenting “unreasonable risk,” *id.* § 2605(a). Because exposure level is a “factor[] Congress did not intend [EPA] to consider” under section 6(h), EPA’s judgment that decaBDE exposures from recycled articles are “low” cannot justify the recycling exclusion. *League of Wilderness Defs.–Blue Mountains Biodiversity Project v. U.S. Forest Serv.*, 689 F.3d 1060, 1068 (9th Cir. 2012) (quotation omitted).

Even assuming EPA could reject exposure-reduction measures because it deems their costs not “reasonable,” *see supra* Point I, EPA must rationally explain “what makes a cost reasonable,” or unreasonable, “in light of potential ... benefits,” *Nat’l Parks Conservation Ass’n v. EPA*, 788 F.3d 1134, 1144 (9th Cir. 2015). Because Congress dispensed with the risk evaluation requirement for the uniquely dangerous chemicals regulated under section 6(h), 15 U.S.C. § 2605(h)(2), EPA did not analyze the risks from exposure to decaBDE at

particular levels and therefore has no basis to conclude that reducing exposures it labels “low” is not justified. *See id.* § 2605(b)(4)(A), (b)(4)(F)(i), (iv) (requiring such analysis in risk evaluations).

Second, EPA’s claim that articles “typically contain low levels of decaBDE” is unsupported. EPA Br. 37-38 (quoting 2021 Rule). It is unclear what levels EPA considers “low,” and EPA did not explain this in the record. EPA’s brief suggests that decaBDE concentrations below 70 mg/kg are “low,” but also that levels as low as 6 mg/kg are “more significant.” *Id.* at 42. EPA appears to concede that levels above 550 mg/kg are “high,” *id.*, but later claims levels below 1000 mg/kg, or 0.1% by weight, are too low to justify regulation, *id.* at 43 & n.4. This is quintessentially arbitrary. *See Nw. Coal. for Alternatives to Pesticides v. EPA*, 544 F.3d 1043, 1052 (9th Cir. 2008) (holding EPA arbitrarily selected safety factor for pesticides where it was “entirely unclear why the EPA chose safety factors of 3x for [two pesticides] and 1x [for another], as opposed to 4x or 5x or 8x or 9x”).

Further, contrary to EPA’s characterization, EPA Br. 43, Petitioners cited multiple studies documenting decaBDE in recycled-content articles well above concentrations EPA acknowledges are “high.” *See, e.g.*, 7-ER-1573 (decaBDE detected at levels up to 11,900 mg/kg, with highest levels in food-contact materials); 5-ER-0977, 5-ER-0992–97 (decaBDE detected in 92% of tested plastic products identified as recycled-content, with levels up to 3,310 mg/kg in toys, up

to 2,491 mg/kg in hair accessories, and over 550 mg/kg in dozens of items).⁵

PBDEs like decaBDE may be present at substantially higher levels—up to 25% by weight, or 250,000 mg/kg—in articles to which they are intentionally added and which may be recycled, 3-ER-0306, which has implications for exposures to recycling workers and near recycling facilities, *see also* 4-ER-0539–40 (documenting decaBDE in electronics casings at 10-15% by weight, or 100,000-150,000 mg/kg).

Accordingly, the fact that decaBDE concentrations in some articles are below EPA’s so-called “de minimis” concentration of 0.1% by weight is immaterial. *Contra* EPA Br. 43 & n.4. Further, Petitioners could not have challenged the Amended Rule’s “de minimis” exemption, as EPA suggests, *see id.*, because it does not apply to recycling or recycled-content articles. *Compare* 40 C.F.R. § 751.405(b) (categorically exempting recycling/recycled-content articles from processing prohibition in § 751.405(a)), *with id.* § 751.405(a)(1)(ii) (establishing de minimis exemption for products and articles otherwise subject to prohibitions in § 751.405(a)); 1-ER-0040 (2024 Amendments explaining EPA developed de minimis exclusion “independent of the exclusion for recycled plastic”).

⁵ DecaBDE levels in this study are reported in parts per million (ppm), 5-ER-0977, which is equivalent to mg/kg.

- c. EPA’s rejection of recycling restrictions based on its desire to promote recycling is contrary to TSCA and unsupported

EPA’s desire to promote recycling does not provide substantial evidence to sustain the recycling exclusion. Pet’rs’ Br. 40-42; *contra* EPA Br. 45-46.

The potential impact of regulation on EPA’s policy goal of promoting recycling is another “factor[] Congress did not intend [EPA] to consider” under section 6(h). *League of Wilderness Defs.*, 689 F.3d at 1068 (quotation omitted). EPA’s invocation of section 6(c)(2), EPA Br. 45, is unavailing because that provision does not apply to section 6(h) rules, *see supra* Point I.C. Even assuming EPA could consider the Amended Rule’s effect on EPA’s recycling goals under section 6(c)(2)(a)(iv)(I), EPA may “factor in” that consideration only “to the extent practicable.” 15 U.S.C. § 2605(c)(2)(B). Thus, while EPA could favor a regulatory approach that promotes recycling *and* reduces decaBDE exposures to the lowest practicable level, as section 6(h) requires, it may not elevate its recycling goals over section 6(h)’s exposure-reduction mandate.⁶

Regardless, EPA’s “analysis” of this factor, EPA Br. 46—which comprises a single sentence, 1-ER-0011 (2021 Rule); 2-ER-0146–47 (response to comments)—

⁶ Similarly, for standard section 6(a) rules, while EPA can consider section 6(c)(2) factors to choose among options that eliminate unreasonable risk, those factors cannot override the mandate to regulate so a chemical “no longer presents [unreasonable] risk.” 15 U.S.C. § 2605(a).

is arbitrary and unsupported. EPA failed to consider an important aspect of the problem by considering only whether completely banning recycling decaBDE-containing plastics would negatively impact EPA's recycling goals. *See* EPA Br. 45. Further, EPA ignored record evidence that allowing decaBDE to continue contaminating recycling streams and recycled-content articles undermines EPA's recycling goals. *See* Pet'rs' Br. 40-41; *cf.* EPA Br. 45-46. This is impermissible; "an agency must account for evidence in the record that may dispute the agency's findings." *Port of Seattle v. FERC*, 499 F.3d 1016, 1035 (9th Cir. 2007).

EPA fails to rehabilitate its rejection of measures to reduce recycling-related exposures to decaBDE, including the targeted measures for which Petitioners advocated. Because the Amended Rule's recycling exclusion is arbitrary, contrary to TSCA, and unsupported by substantial evidence, remand is required.

B. Solid Waste Disposal

The record demonstrates that (1) existing regulations on solid waste disposal allow continued decaBDE exposure from facilities like landfills and incinerators, *see* Pet'rs' Br. 45-56; and (2) there are practicable methods for reducing those exposures, including by prioritizing regulation of high-decaBDE waste streams and requiring existing technology that reduces decaBDE exposure, *id.* at 47-49. EPA can adopt exposure-reduction measures without "fabricat[ing] ... an entirely new

disposal ... regime,” EPA Br. 34, and its decision not to adopt *any* measures to reduce decaBDE exposures from solid waste disposal is arbitrary and unsupported by substantial evidence, *see* Pet’rs’ Br. 47-56.

1. EPA’s reliance on RCRA is arbitrary and unsupported

In defending its refusal to regulate solid waste disposal, EPA argues that RCRA “already reduces decaBDE exposure from landfills to the extent practicable,” and that additional requirements “would be expensive and difficult.” EPA Br. 48-49 (quotation omitted).

This rationale fails, first, because EPA provides no support for its conclusion that additional exposure-reduction measures would be “expensive and difficult.” *Id.* at 49 (quotation omitted); *see* Pet’rs’ Br. 51-52. EPA’s bare assertion is “unsupported by any explained reasoning,” rendering EPA’s action arbitrary. *Nat’l Parks Conservation Ass’n*, 788 F.3d at 1143.

EPA also largely sidesteps Petitioners’ arguments that RCRA permits ongoing decaBDE exposures. EPA ignores that RCRA’s landfill requirements do not address other disposal methods like incineration. *See infra* Point II.B.2. EPA makes no attempt to justify its failure to adopt measures to reduce decaBDE exposure from construction and demolition landfills and certain small landfills for which RCRA does not require liners and leachate-collection systems. Pet’rs’ Br. 54-55. And EPA ignores multiple established approaches for regulating disposal of

decaBDE-containing waste—including restrictions in effect in other countries—and technologies to reduce disposal-related exposures. *See id.* at 47-49; 7-ER-1510–1511, 7-ER-1513 (expert comments describing technology for reducing incinerator emissions and landfill-related exposures). EPA’s Amended Rule is arbitrary and unsupported by substantial evidence because EPA ignored “relevant evidence” and did not “adequately assess[] available information” regarding RCRA’s gaps and practicable means for filling those gaps. *Rancheria v. Jewell*, 776 F.3d 706, 714 (9th Cir. 2015); *Vinyl Inst.*, 106 F.4th at 1129.

EPA cannot evade its TSCA obligation to regulate decaBDE disposal simply by invoking another statute that generally regulates solid waste disposal. Congress enacted TSCA to compel comprehensive chemical regulation on top of existing statutes that address a particular exposure pathway or stage of a chemical’s lifecycle. *See Safer Chems., Healthy Fams. v. EPA*, 943 F.3d 397, 406 (9th Cir. 2019). Indeed, it was against the backdrop of the “existing [RCRA] disposal regime,” EPA Br. 48, that Congress directed EPA to “reduce exposure to

[decaBDE] to the extent practicable” using tools that include disposal restrictions, 15 U.S.C. § 2605(h)(4); *see id.* § 2605(a)(6).⁷

EPA’s brief responds only to Petitioners’ argument regarding solid waste disposal in Alaska. EPA Br. 52-53. EPA suggests that additional exposure-reduction measures are not practicable because Alaska’s Governor found 25 years ago that applying RCRA requirements to Alaska landfills would be “infeasible” *or* “not ... cost-effective” *or* “otherwise inappropriate.” 2-ER-0122. Even if EPA were correct that *any* “regulation of disposal in these areas ... has been determined to be infeasible,” EPA Br. 52—and that is unsupported—EPA’s “presum[ption]” that regulating disposal remains impracticable decades later and in light of current technology falls short of the support TSCA requires, 2-ER-0122. *See Vinyl Inst.*, 106 F.4th at 1128 (holding “conclusory statements” failing “to demonstrate adequately the EPA’s consideration” of relevant issue are not substantial evidence).

2. EPA’s failure to address incineration exposures is arbitrary and unsupported

The record shows there are decaBDE exposures from solid waste incineration and “well-established technologies” to reduce those exposures. 7-ER-

⁷ EPA’s brief argues that EPA did not regulate disposal because of a “heightened” “concern” that doing so “would cause confusion with overlapping state regulatory programs,” since section 6(h) rules do not preempt state regulations. EPA Br. 49 n.5. This is irrational because TSCA generally exempts from preemption *all* state regulation of disposal, even for standard section 6(a) rules. *See* 15 U.S.C. § 2617(d)(1)(A)(iii).

1496; *see also* 7-ER-1511; Pet’rs’ Br. 11-12, 28, 47-49. Despite this evidence, in the rulemaking process and in its brief, EPA failed to address incinerator exposures at all, much less rationally explain why reducing those exposures is impracticable. Pet’rs’ Br. 49; *cf.* EPA Br. 47-56 (absence). EPA’s “ignor[ing] important considerations” and record evidence renders EPA’s decision not to regulate incineration arbitrary and unsupported. *Rancheria*, 776 F.3d at 714; *see Waterkeeper*, 140 F.4th at 1220 (holding EPA acted arbitrarily by “entirely fail[ing] to consider an important aspect” of problem (quotation omitted)).

C. Wastewater Discharges

The record does not support EPA’s contention that facilities manufacturing, processing, and disposing of decaBDE-containing articles are not discharging decaBDE in wastewater. EPA’s refusal to regulate those discharges is unsupported by substantial evidence and cannot be propped up by EPA’s *post hoc* rationalizations.

1. EPA ignored record evidence of ongoing, unregulated decaBDE discharges

EPA’s suggestion that there are “zero releases of decaBDE to water,” EPA Br. 50 (quoting 1-ER-0029), is contradicted by record evidence EPA ignores and rests on self-reporting from a limited set of facilities, 7-ER-1415–16.

For example, Petitioners provided data from Washington’s environmental agency documenting substantial decaBDE discharges in wastewater from multiple

facility categories, 7-ER-1415, including landfills; aircraft modification, shipbuilding, and metal finishing facilities; and industrial laundries. 7-ER-1540–42. EPA acted arbitrarily by failing to “account for evidence in the record” that “dispute[s] the agency’s findings.” *Port of Seattle*, 499 F.3d at 1035.

2. EPA’s decision to leave these discharges unregulated is unsupported

EPA fails to justify its refusal to regulate ongoing decaBDE discharges from facilities that manufacture, process, or dispose of decaBDE-containing articles. Pet’rs’ Br. 59-62.

EPA’s argument that it properly “relied on EPA’s existing disposal regime” to address decaBDE discharges, EPA Br. 46, is an impermissible *post hoc* rationalization. *See Nat. Res. Def. Council v. EPA*, 31 F.4th 1203, 1208 (9th Cir. 2022) (“*NRDC*”) (“The law is clear that we can only uphold agency action based on the reasons the agency gave for its decision.”). EPA identifies no record analysis of how existing regulations reduce decaBDE exposures from wastewater, let alone to the lowest practicable level. While the 2021 Rule alluded to potential regulation under the Clean Water Act, EPA abandoned that rationale in the 2024 Amendments, as the record reflects no regulation of decaBDE under that statute. Pet’rs’ Br. 61 n.13; *see also* 1-ER-0029 (2024 Amendments not invoking existing Clean Water Act standards); 6-ER-1363–64 (same). Because “post-hoc rationalizations ... cannot support a finding of substantial evidence,” *NRDC*, 31 F.4th at 1209

(quotation omitted), this argument cannot justify EPA’s refusal to regulate ongoing decaBDE discharges.⁸

EPA does not dispute that widely available wastewater treatment technologies can substantially reduce decaBDE discharges. *See* Pet’rs’ Br. 61. EPA asserts that imposing any restrictions on discharges from facilities that manufacture, process, or dispose of decaBDE-containing articles would require “cost-prohibitive” testing, EPA Br. 54; *see also id.* at 50, but identifies no analysis of wastewater testing costs. EPA points to the deficient cost data for testing *solid articles* it invokes to justify the recycling exclusion. *Id.* at 50, 54. But data concerning the cost of laboratory testing for different chemicals in different materials, not decaBDE in wastewater, are inadequate to support EPA’s rejection of discharge restrictions. *See Waterkeeper*, 140 F.4th at 1221 (EPA may not rely on data that “does not meaningfully address” important aspects of problem presented).

D. Land-Applied Sewage Sludge

EPA does not dispute that land-applying decaBDE-contaminated sewage sludge generates significant decaBDE exposures. Pet’rs’ Br. 62-65. Nevertheless, EPA refused, without explanation, to address these exposures. *Id.* at 65-68. EPA’s

⁸ EPA’s argument also fails on its merits. EPA’s brief refers vaguely to “[f]ederal and state laws” that supposedly “provide comprehensive regulation of ... disposal of wastewater,” EPA Br. 47, but identifies none.

brief invokes *post hoc* rationalizations and fails to identify substantial evidence supporting its decision.

1. EPA’s failure to address exposures from land-applied sludge is arbitrary and unsupported

EPA’s brief suggests for the first time that land-applying sludge constitutes disposal and invokes RCRA to justify not regulating. EPA Br. 51. But EPA never claimed in the record that using sludge as fertilizer constitutes disposal or invoked “existing disposal regimes,” *id.*, to justify not regulating, 6-ER-1396 (EPA offering no justification for not regulating biosolids); *cf.* 6-ER-1206–07 (EPA describing “use[]” and “dispos[al]” of sludge, noting most sludge is “land applied or commercially distributed as fertilizer” while remainder is “disposed of” in landfills or incinerators). This impermissible *post hoc* rationalization only “underscor[es] the absence of an adequate explanation in the administrative record itself.”

Pritzker, 828 F.3d at 1134 (quotation omitted).

Nor does EPA identify any RCRA regulation of decaBDE in land-applied sludge, perhaps because none exists. *See* 40 C.F.R. § 257.1(c)(11) (exempting from RCRA criteria use of land-applied sewage sludge in accordance with Clean Water Act regulations, which do not limit decaBDE). EPA’s reference to RCRA is not “a satisfactory explanation” for failing to regulate land-applied sludge. *Humane Soc’y of the U.S. v. Locke*, 626 F.3d 1040, 1048 (9th Cir. 2010) (quotation omitted).

EPA’s brief offers another impermissible *post hoc* rationalization: that regulating land-applied sludge is impracticable because it would require wastewater treatment plants to test for and treat decaBDE. EPA Br. 50-51. EPA never advanced this justification in the record, instead stating it would not adopt additional prohibitions on *wastewater discharges*—not sludge—that would require testing and treatment. 6-ER-1396. Moreover, treating wastewater generally *increases* sludge contamination by removing decaBDE from effluent and concentrating it in sludge. *See* 3-ER-0308.

2. EPA’s impracticability arguments are unsupported

As Petitioners explained, EPA regulates contaminants in land-applied sludge under the Clean Water Act, can add contaminants to this program, and can test sludge for decaBDE. Pet’rs’ Br. 66. EPA’s brief responds only that the National Sewage Sludge Survey (the “Survey”) demonstrates that testing for decaBDE is impracticable. EPA. Br. 54-55.

Setting aside that EPA did not rely on testing burdens in refusing to regulate land-applied sludge, *see* 6-ER-1396, EPA’s argument is unsupported. EPA claims the Survey uses testing “not done at an industrial scale,” referencing only testing for a different chemical—PIP(3:1)—in a different medium—plastic. EPA Br. 54-55 (citing 6-ER-1387). EPA’s assertion that “the same difficulties are present” when

testing sludge for decaBDE, *id.* at 55 n.7, is a “conclusory statement[]” that cannot constitute substantial evidence, *Vinyl Inst.*, 106 F.4th at 1128.

EPA also suggests that the Survey’s relative infrequency indicates that testing sludge for decaBDE is impracticable. EPA Br. 54. But EPA need not repeat the Survey, which collects data on more than 140 chemicals, to regulate decaBDE.⁹ Rather, decaBDE’s inclusion in the Survey demonstrates that EPA can test sludge for decaBDE at a national scale.

Finally, EPA’s brief suggests that the mean decaBE level detected in the Survey justifies EPA’s failure to regulate because that level is below the Amended Rule’s so-called “de minimis” threshold. *Id.* at 55. This threshold applies only to otherwise applicable “prohibitions and restrictions,” 40 C.F.R. § 751.405(a)(1)(ii), which EPA says do not apply to sludge, *see* 6-ER-1396 (“EPA is not using its section 6 authority to regulate biosolids”). And EPA’s assertion that mean decaBDE levels are “low” does not excuse EPA’s regulatory obligations, *see supra* Point II.A.2.b, especially since using sludge as fertilizer involves applying large volumes of sludge to soil, in which decaBDE can persist for years. Pet’rs’ Br. 63-65.

⁹ 2006 Targeted National Sewage Sludge Survey, EPA <https://www.epa.gov/biosolids/2006-targeted-national-sewage-sludge-survey-tnsss> (last visited Nov. 11, 2025).

III. EPA CANNOT EVADE ITS TSCA OBLIGATIONS BY SUGGESTING IT MAY REGULATE IN THE FUTURE

EPA cannot redeem its failure to address decaBDE exposures from solid waste disposal, wastewater, or land-applied sludge by invoking the possibility that it may do so in the future. *Contra* EPA Br. 56-59.

Bluewater does not support the proposition that, by incanting it is not regulating “*at this time*,” EPA Br. 58 (quotation omitted), EPA can evade scrutiny of that decision. *Bluewater Network v. EPA*, 372 F.3d 404 (D.C. Cir. 2004). In that case and the related case *South Coast Air Quality Management District v. EPA*, the D.C. Circuit upheld EPA’s decision to set stepwise Clean Air Act standards after determining that approach satisfied the specific statutory provision at issue, which required EPA to consider “lead time” for technology adoption and revise its “standards from time to time.” *Bluewater*, 372 F.3d at 406 (quotation omitted); *see S. Coast Air Quality Mgmt Dist. v. EPA*, 554 F.3d 1076, 1080 (D.C. Cir. 2009). The court expressly relied on EPA’s “commit[ment]” to follow EPA’s “interim standards” with subsequent regulation by a date certain. *See Bluewater*, 372 F.3d at 408, 412 (quotation omitted); *see also S. Coast Air Quality Mgmt Dist.*, 554 F.3d at 1081 & n.1.

Not only does TSCA section 6(h) not contemplate future rulemaking, *contra Bluewater*, 372 F.3d at 406, but EPA made no commitment to revise its Amended Rule. EPA cannot nod to a “mere possibility of changing the rules” in the future to

excuse failing to satisfy TSCA's requirement to adopt all practicable exposure-reduction measures by December 2020. *Pritzker*, 828 F.3d at 1142; *see* 15 U.S.C. § 2605(h)(1), (3)-(4).

CONCLUSION

For the foregoing reasons, the Court should hold the Amended Rule unlawful and remand with deadlines.

Respectfully submitted this 14th day of November, 2025.

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